



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Arlington Plating Co., Palatine, Illinois

FROM: Brittany Cobb, Environmental Engineer
AECAB (MI/WI)

THRU: Sarah Marshall, Section Supervisor
AECAB (MI/WI)

TO: File

BASIC INFORMATION

Facility Name: Arlington Plating Co.

Facility Location: 600 S Vermont St, Palatine, Illinois 60067

Date of Inspection: 8/26/2022

EPA Inspector(s):

1. Brittany Cobb, Environmental Engineer
2. Karina Kuc, Environmental Engineer
3. Meaghan Pashen, Environmental Engineer

Other Attendees:

1. Dishant Tailor, Director of Operations
2. Ted Dobbels, CFO
3. John Karmarczyk, Lab Manager
4. Raul Tujano, Maintenance Manager

Contact Email Address: dtailor@arlingtonplating.com

Purpose of Inspection: Determine Compliance with the Clean Air Act and State Operating Permit

Facility Type: Electroplating facility

Regulations Central to Inspection: 40 C.F.R Part 63 Subpart N - National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; 40 C.F.R Part 63 Subpart WWWW - National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations;

Arrival Time: 1:15 PM

Departure Time: 3:00 PM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Provided Small Business Resource Information Sheet via email
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Arlington Plating Co. employees unless otherwise noted.

Company Ownership:

In July 2020 Garth Davies purchased Arlington Plating. There was no change in process.

Process Description:

Arlington Plating Co. (Arlington or Facility) performs anodizing and nickel and chromium electroplating. The facility plates aluminum, zinc, brass, steel, and stainless steel. There are four process lines: 1. Anodizing – various acids used; 2. Dress up – nickel and trivalent chrome electroplating; 3. Electroless – electroless nickel plating; and 4. Hand line – acid/base copper and nickel and hexavalent chrome electroplating. The process lines have the following electroplating tanks: one trivalent chromium, one decorative hexavalent chromium, one hard hexavalent chromium, and seven nickel. There are also four electroless nickel tanks. Arlington uses n-propyl bromide to degrease metal. The vapor degreaser is contained in a 165–gallon tank.

Emissions are controlled by five wet-fume scrubbers: there are two scrubbers on the anodizing line to control emissions from sulfuric acid, hydrochloric acid, phosphoric acid, and nitric acid tanks; two on the dress up line (one of which is shared with the electroless nickel line); and one on the hand line to control emissions from the nickel and acid tanks. The scrubbers use fresh and recirculated water. Emissions from the chromium tanks are not controlled by scrubbers. Both hexavalent chromium tanks exhaust to atmosphere and there is a mesh filter in the duct. The trivalent chromium tank exhausts straight to atmosphere.

Arlington also polishes and buffs metals after copper plating. The polisher uses grease, and the buffer uses a lubricant. Emissions are controlled by one dust collector that has a differential pressure gauge.

Staff Interview:

Arlington operates 6:00 AM to 4:00 PM Monday through Friday. There are 64 employees at the Facility.

Arlington measures surface tension of the decorative hexavalent chromium tank twice per week and the trivalent chromium tank once per week. The Facility utilizes a stalagmometer to measure surface tension. The facility maintains a log of wetting agent additions to the nickel tanks. Staff indicated that they switched to a non-perfluorooctane sulfonic acid (non-PFOS) wetting agent about 6 months ago. The facility maintains logs of amp-hours for the electroplating tanks. The nickel tanks are not covered.

The facility measures pH, differential pressure, and water flow for the five scrubbers and performs monthly/biweekly preventative maintenance. The pH of the nickel electroplating tanks are approximately 4, except the high sulfur nickel tank is about 2.2. If the differential pressure reaches 3 inches of water column (WC) the facility cleans the scrubbers. Differential pressure is also monitored on the dust collector for the polisher/buffer and a cleaning cycle is triggered if the differential pressure is over 2.5 inches WC.

Arlington installed the hard chromium tank approximately eight years ago. The facility has not used the hard chromium electroplating tank in about one year, but the tank still has the chromium solution in it.

The vapor degreaser tank has an automatic shutoff at a certain vapor level and metals are always sprayed inside of the vapor zone. There is a compressor in the tank to cool and suppress fumes. The pH is checked every few months. Metals are processed in the tank for 15 minutes. The facility uses approximately 55 gallons of degreaser per month.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

EPA observed drip guards and containment under the electroplating tanks. The pressure differential gauge on one of the anodizing scrubbers (219 – 222) was broken and the second anodizing scrubber did not have a gauge. The gauge on one of the dress up line scrubbers read 2.2 inches of water column (WC) and the second dress up line scrubber read 0.3 inches of WC. The gauge on the nickel and acid scrubber read 0.5 inches of WC.

Photos and/or Videos: were taken during the inspection.

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

1. Operation and Maintenance (O & M) Plan
2. SDS of wetting agents
3. Amp-hours of electroplating tanks
4. Wetting agent additions log

CLOSING CONFERENCE

- ☒ Provided U.S. EPA point of contact to the facility

Requested documents:

- Copy of the Operation and Maintenance (O & M) Plan
- 40 C.F.R Part 63, Subpart N Initial Notification
- 40 C.F.R Part 63, Subpart N Notification of Compliance Status
- 40 C.F.R Part 63, Subpart WWWW Initial Notification
- 40 C.F.R Part 63, Subpart WWWW Notification of Compliance Status
- Vapor level and design information for the degreaser tank
- Records of preventative maintenance on the scrubbers, from January 1, 2019 to August 25, 2022
- Pressure drop measurements from all scrubbers, from January 1, 2019 to August 25, 2022
- Calibration records for the pressure drop gauges on the scrubbers, from January 1, 2019 to August 25, 2022
- Records of surface tension measurements from all electroplating tanks that Arlington monitors surface tension, from January 1, 2019 to August 25, 2022
- Records of wetting agent additions to the nickel electroplating tanks, from January 1, 2019 to August 25, 2022
- Copies of all wetting agent SDS used in the past 5 years, include the approximate dates in which the wetting agents were used
- Copy of industrial hygiene study

Concerns:

1. EPA expressed concern that Arlington has used wetting agents in the past five years that contain PFOS.
2. EPA expressed concern that Arlington has one hard chromium electroplating tank when the permit does not indicate the facility has a hard chromium electroplating tank.
3. EPA expressed concern that the differential pressure gauge on the anodizing scrubber was not operational.

DIGITAL SIGNATURES

Report Author: _____

Section Supervisor: _____

Facility Name: Arlington Plating Co.
Facility Location: 600 S Vermont St, Palatine, Illinois
Date of Inspection: August 26, 2022

APPENDICES AND ATTACHMENTS

Appendix A - Digital Image Log

Facility Name: Arlington Plating Co.
Facility Location: 600 S Vermont St, Palatine, Illinois
Date of Inspection: August 26, 2022

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Karina Kuc	2. Archival Record Location: https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_Arlington%20Plating_IL_22/Enf_Arlington%20Plating_IL_22_Ins/p/photos?csf=1&web=1&e=7IC8jE
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Image Number	File Name	Date and Time (Central Time)*	Description of Image
1	P8260036.JPG	8/26/2022 14:00	Intake vent for phosphoric acid tank
2	P8260037.JPG	8/26/2022 14:02	Intake vent for sulfuric acid tank
3	P8260038.JPG	8/26/2022 14:13	Chrome electroplating tanks
4	P8260039.JPG	8/26/2022 14:13	Drip guards on chrome electroplating tanks
5	P8260040.JPG	8/26/2022 14:13	Hard chrome electroplating tank
6	P8260041.JPG	8/26/2022 14:20	Electroless nickel scrubber gauge reading 0 inches WC
7	P8260042.JPG	8/26/2022 14:23	Dress up line scrubber gauge reading 2.2 inches WC
8	P8260043.JPG	8/26/2022 14:23	Second anodizing scrubber, did not have a gauge
9	P8260044.JPG	8/26/2022 14:24	Second dress up line scrubber gauge reading 0.3 inches of WC
10	P8260045.JPG	8/26/2022 14:30	Nickel and acid scrubber gauge reading 0.5 inches of WC
11	P8260046.JPG	8/26/2022 14:30	Nickel and acid scrubber gauge reading 0.5 inches of WC

Note: Times have been adjusted to reflect Central Time. Timestamp on photos is an hour earlier.